

REMARKS

The Office Action mailed February 13, 2003 has been reviewed and carefully considered. Claims 1-15 have been amended. Claims 1-15 are pending in this application, with claims 1, 10, 11, 13, 14, and 15 being the only independent claims. Reconsideration of the above-identified application, as herein amended and in view of the following remarks, is respectfully requested.

In the Office Action mailed February 13, 2003, the drawings are objected to as not containing labels for the blocks of the block diagram and because they contain reference numeral 16 which is not mentioned in the description. The drawing has been amended to include labels for the blocks and the specification has been amended to include reference numeral 16.

The Abstract is objected to because the reference to figure 1 should be deleted. The Abstract has been amended to remove the reference to figure 1 and to clarify the language therein.

The specification is objected to as not including headings. The Examiner lists further informalities on page 3, first full paragraph. The specification has been amended to include headings and to correct the informalities listed by the Examiner. In view of the above amendments and remarks, it is respectfully requested that the objections to the drawing, abstract, and specification, now be withdrawn.

Claim 15 is objected to as containing a minor informality. Claim 15 has been amended to correct this minor informality. Accordingly, it is respectfully requested that the objection to claim 15 now be removed.

Claims 13-15 stand rejected under 35 U.S.C. §112, first paragraph, as failing to provide an adequate description of the claim limitations in the specification. The Examiner states

that the specification fails to disclose a computer program for executing the method or for controlling the device. The specification and drawings have been amended to adequately describe the computer program. Support for this amendment is found on page 5, lines 3-6. Accordingly, the rejection of claims 13-15 under 35 U.S.C. §112, first paragraph is now overcome.

Claims 1-15 stand rejected under 35 U.S.C. §112, second paragraph as being indefinite. The Examiner lists various reasons on page 4 of the office action. The claims have been extensively revised to address each of the items listed by the Examiner with the following exceptions. The Examiner states that the means for providing a survey image is not positively set forth in claims 10. However, claim 10 recites a data processor. The data processor provides the survey image. Accordingly, the means for providing the survey image is positively set forth. In view of the above amendments and comments, it is respectfully submitted that the rejection of claims 1-15 under 35 U.S.C. §112, second paragraph, is now overcome.

Claims 13-15 stand rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter. Claims 13-15 have been amended and are now directed to a computer readable medium storing a computer program. It is respectfully submitted that claims 13-15 are now directed to statutory subject matter.

Claims 1, 2, 5, 9-11, 13-15 stand rejected under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 5,638,819 (Manwaring).

Claims 3 and 12 stand rejected under 35 U.S.C. §103 as unpatentable over Manwaring in view of U.S. Patent No. 5,951,472 (VanVaals).

Claim 4 stand rejected under 35 U.S.C. §103 as unpatentable over Manwaring in view of U.S. Patent No. 6,266,552 (Slettenmark).

Claims 6 and 12 stand rejected under 35 U.S.C. §103 as unpatentable over Manwaring in view of U.S. Patent No. 6,275,724 (Dickenson) or U.S. Patent Publication No. 2002/0165448 (Ben-Haim).

Claim 7 stand rejected under 35 U.S.C. §103 as unpatentable over Manwaring in view of U.S. Patent No. 6,498,948 (Ozawa).

Claim 8 stand rejected under 35 U.S.C. §103 as unpatentable over Manwaring in view of U.S. Patent No. 6,023,636 (Wendt).

Before discussing the cited prior art and the Examiner's rejections of the claims in view of that art, a brief summary of the present invention is appropriate. The present invention relates to a device and method for determining the position of a medical instrument introduced into an object to be examined. A localization device is arranged in an end zone of the medical instrument, the end zone being a part of the medical instrument to be introduced into the object during use of the medical instrument. An image acquisition device is also arranged on the medical instrument for acquiring image information concerning the vicinity of the portion of medical instrument introduced into the object. The position of the medical may be reproduced in a survey image of the object to be examined based on the position determined using the localization device. Images of the object in the determined position are displayed based on information acquired by the image acquisition device.

According to the present invention, the localization device is arranged in a portion of the medical instrument that is to be introduced into the subject during use of the medical instrument. Independent claims 1, 10, 11, 13, 14, and 15 each recite that the localization device is mounted on a portion of the medical instrument that is introduced into the object to be examined during use of the medical instrument.

Manwaring discloses a medical instrument in which a sensor 30' is coupled to a localizer 26 for providing location of the medical instrument. Manwaring requires that a probe tip 36 of the medical instrument has a fixed spatial relationship to the sensor so that the location of the probe tip is definitely known (see col. 4, lines 26-28).

In contrast, the claimed invention requires that the localization device is located on a portion of the medical instrument that is introduced into the object to be examined during examination. Manwaring fails to disclose this feature of the presently claimed invention. Accordingly, it is respectfully submitted that independent claims 1, 10, 11, 13, 14, and 15 are not anticipated by Manwaring under 35 U.S.C. §102.

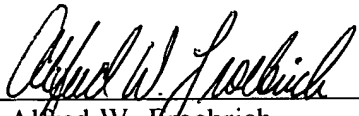
Manwaring also fails to teach or suggest the use of a localization device on a portion of a medical instrument to be introduced into an object during use of the medical instrument. Rather Manwaring teaches that determining the position of the handle of the medical apparatus is all that is required. There is no teaching or suggestion for performing the difficult design task of inserting the localization device into the portion of the medical instrument that is introduced into the object to be examined during use of the medical device. Furthermore, there is no teaching or suggestion in Manwaring that the sensor 30' could be located in the part of the probe that is inserted into the object to be examined. Accordingly, it is respectfully submitted that independent claims 1, 10, 11, 13, 14, and 15 are allowable over Manwaring under 35 U.S.C. §103.

Dependent claims 2-9, and 12, being dependent on one of independent claims 1 and 11, are allowable for at least the same reasons as independent claims 1 and 11.

The application is now deemed to be in condition for allowance and notice to that effect is solicited.

It is believed that no fees or charges are currently due. However, if any fees or charges are required at this time in connection with the application, they may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

Respectfully submitted,
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By 
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